

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1. (Original) A process for producing a crude oil having lowered unsaponifiable matter content and/or ester-type sterol content and comprising a highly unsaturated fatty acid as a constituent fatty acid, characterized in that a microorganism capable of producing a fat or oil comprising an unsaturated fatty acid as a constituent fatty acid is cultured in a medium containing a nitrogen source concentration of 2 to 15% within a culture tank equipped with an agitation impeller satisfying the requirement that the ratio of the diameter of agitation impeller (=d) to the inner diameter of the culture tank (=D) is $d/D=0.30$ to 0.6 .

Claim 2. (Original) The process according to claim 1, wherein the ratio of the diameter of agitation impeller (=d) to the inner diameter of the culture tank (=D) is $d/D=0.34$ to 0.6 .

Claim 3. (Previously Presented) The process according to claim 1, wherein the nitrogen source contains a nitrogen source which has been sterilized at a pH of not more than 5.

Claim 4. (Currently Amended) A process of claim 1 further comprising a step of refining the crude oil~~for producing a refined fat or oil, characterized by comprising refining the crude oil produced by the process according to claim 1.~~

Claim 5. (Previously Presented) The process for producing a crude oil comprising a highly unsaturated fatty acid having lowered unsaponifiable matter content and/or ester-type sterol content as a constituent fatty acid according to claim 1, characterized in that not less than 70% of the fat or oil comprising said highly unsaturated fatty acid as the constituent fatty acid is accounted for by a triglyceride.

Claim 6. (Previously Presented) The process according to claim 1, wherein the highly unsaturated fatty acid constituting the fat or oil is γ -linolenic acid (18:3 ω 6), dihomogamma-linolenic acid (20:3 ω 6), arachidonic acid (20:4 ω 6), 7,10,13,16-docosatetraenoic acid (22:4 ω 6), 4,7,10,13,16-docosapentaenoic acid (22:5 ω 6), α -linolenic acid (18:3 ω 3), 6,9,12,15-octadecatetraenoic acid (18:4 ω 3), 8,11,14,17-eicosatetraenoic acid (20:4 ω 3), eicosapentaenoic acid (20:5 ω 3), 7,10,13,16,19-docosapentaenoic acid (22:5 ω 3), 4,7,10,13,16,19-docosahexaenoic acid (22:6 ω 3), 6,9-octadecadienoic acid (18:2 ω 9), 8,11-eicosadienoic acid (20:2 ω 9), or 5,8,11-eicosatrienoic acid (Mead acid: 20:3 ω 9) or a combination of two or more of them.

Claim 7. (Previously Presented) The process according to claim 1, wherein the microorganism is one belonging to the genus *Mortierella*, *Conidiobolus*, *Pythium*, *Phytophthora*, *Penicillium*, *Cladosporium*, *Mucor*, *Fusarium*, *Aspergillus*, *Rhodotorula*, *Entomophthora*, *Echinosporangium*, or *Saprolegnia*.

Claim 8. (Previously Presented) The process according to claim 1, wherein said microorganism is one belonging to the genus *Mortierella*, subgenus *Mortierella*.

Claim 9. (Original) The process according to claim 8, wherein the microorganism belonging to the subgenus *Mortierella* is the species *alpina* belonging to the genus *Mortierella*.

Claims 10-11. (Canceled)

Claim 12. (Currently Amended) A crude oil produced according to claim 1, wherein said crude oil has~~characterized by having~~ an ester-type sterol content of not more than [[1.0%]] 0.6% by weight ~~produced by the process according to claim 1.~~

Claim 13. (Currently Amended) A refined fat or oil produced ~~by refining the crude oil~~

according to claim [[12]] 4, wherein said refined fat or oil has an ester-type sterol content of not more than 0.6% by weight.

Claims 14-15. (Canceled)

Claim 16. (Currently Amended) A crude oil comprising a fat or oil having lowered unsaponifiable matter content and/or ester-type sterol content comprising, as a constituent fatty acid, a highly unsaturated fatty acid, characterized in that the ester-type sterol content of the fat or oil is not more than [[1.0%]] 0.6% by weight.

Claim 17. (Original) A refined fat or oil produced by refining the crude oil according to claim 16.

Claim 18. (Currently Amended) A general food and drink, a functional food, a nutrition supplement, a formula for premature babies, a formula for mature babies, a food for infants, a food for expectant and nursing mothers, or a food for aged persons, comprising the crude oil and/or the refined fat or oil according to claim [[10]]16.

Claim 19. (Currently Amended) A therapeutic nutrition food comprising the crude oil of claim 16 and/or the refined fat or oil obtained by refining the crude oil according to claim 10.

Claim 20. (Currently Amended) A food for animals or fishes, comprising the crude oil of claim 16 and/or the refined fat or oil obtained by refining the crude oil according to claim 10.

Claim 21. (Currently Amended) A pharmaceutical composition, comprising the crude oil of claim 16 and/or the refined fat or oil obtained by refining the crude oil according to claim 10.

Claim 22. (Currently Amended) A pharmaceutical composition prepared by using the

crude oil of claim 16 and/or the refined fat or oil obtained by refining the crude oil according to claim 10.

Claim 23. (Previously Presented) The process for producing a refined fat or oil according to claim 4, characterized in that not less than 70% of the fat or oil comprising said highly unsaturated fatty acid as the constituent fatty acid is accounted for by a triglyceride.

Claim 24. (Previously Presented) The therapeutic nutrition food according to claim 19, further comprising a neutral carrier suitable for oral, intrarectal or parenteral administration.

Claim 25. (New) A crude oil produced according to claim 1, wherein said crude oil has an ester-type sterol content of not more than 0.8% by weight, and a highly unsaturated fatty acid content is not less than 30% by weight based on the total fatty acid in the oil.

Claim 26. (New) A refined fat or oil produced according to claim 4, wherein said fat or oil has an ester-type sterol content of not more than 0.8% by weight, and a highly unsaturated fatty acid content is not less than 30% by weight based on the total fatty acid in the fat or oil.

Claim 27. (New) A crude oil comprising a fat or oil having lowered unsaponifiable matter content and/or ester-type sterol content comprising, as a constituent fatty acid, a highly unsaturated fatty acid, characterized in that the ester-type sterol content of the fat or oil is not more than 0.8% by weight and said highly unsaturated fatty acid content is not less than 30% by weight based on the total fatty acid in the fat or oil.

Claim 28. (New) A refined fat or oil produced by refining the crude oil according to claim 27.